REMARKS

An excess claim fee payment letter is submitted herewith for eight (8) additional total claims and two (2) additional independent claims.

Claims 1-13, 15, and 17 - 33 are all the claims presently pending in the application. Claims 1-2, 5, 7, 9-10, 12-13, 18, 20, and 22 are amended to more clearly define the invention, claim 16 is canceled and claims 24 - 33 are added. Claims 1, 13, 20, and 28-29 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicants also note that, notwithstanding any claim amendments herein or later during prosecution, Applicants' intent is to encompass equivalents of all claim elements.

Applicants gratefully acknowledge that claims 5, 7, 10, and 12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, Applicants respectfully submit that all of the claims are allowable.

Claims 1-4, 6, 8-9, 11, 13, and 15-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kawasaki et al. reference in view of the Hosoya et al. reference.

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

A first exemplary embodiment of the claimed invention, as defined, for example, by claims 1, 3, and 20, is directed to a power tool that includes a speed reduction mechanism

portion having a fixed gear, a striking mechanism portion for converting a power of the speed reduction mechanism portion into a striking force. In such a power tool, an impacting reactive force is generated in the striking mechanism portion by a striking action, the impacting reactive force is transmitted from the striking mechanism portion to the fixed gear, and impacting torque in a direction of a rotation of the fixed gear is added between the fixed gear and a fixed gear support jig supporting the fixed gear (or a housing). Therefore, there is a problem such as that damage to the fixed gear and the fixed gear support jig (or the housing) is especially large.

The present invention provides an impact damping mechanism for damping an impact force on a speed reduction mechanism in a direction of rotation of the fixed gear. Therefore, the present invention dampens the impacting torque added between the fixed gear and the fixed gear support jig (or the housing) and extends the life time of the fixed gear and the fixed gear support jig (or the housing).

Since the Hosoya et al. reference does not include a fixed gear, a problem that a big impacting torque is added between a fixed gear and a fixed gear support jig (or a housing) described above does not occur. An object of the Hosoya et al. reference is different from that of the present invention.

The Hosoya et al. reference discloses providing an impact damping mechanism between a rotating axis and a rotating gear disposed on the rotating axis. Therefore, the Hosoya et al. reference does not teach or suggest providing an impact damping mechanism for damping an impact force on a speed reduction mechanism in a direction of rotation of a fixed gear.

A second exemplary embodiment of the claimed invention, as defined, for example,

by new independent claim 28, is directed to a tool that includes an impact damping mechanism between a speed reduction mechanism device and the housing of the tool.

In this manner, the present invention inhibits an impact force from damaging the speed reduction device by absorbing impacts between the speed reduction device and the housing.

A third exemplary embodiment of the claimed invention, as defined, for example, by new independent claim 29, is directed to a power tool that includes a main body portion and a handle portion. The main body portion includes a motor serving as a drive source, a speed reduction mechanism portion for transmitting a rotational power of the motor, and a mechanical portion for transmitting the rotational power of the speed reduction mechanism portion to an end tool. The handle portion is connected to the main body portion. The speed reduction mechanism portion includes a fixed gear having a gear in an inner periphery of the fixed gear, and a fixed gear support member that holds the fixed gear. A projection extends toward the motor from a side of the fixed gear, and a hole portion that engages the projection is defined in the support member.

In this manner, the fixed gear can be supported by the fixed gear support member without increasing the outer diameter of the fixed gear support member and the tool.

II. THE PRIOR ART REJECTION

The Examiner alleges that the Hosoya et al. reference would have been combined with the Kawasaki et al. reference to form the claimed invention. Applicants submit, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicants submit that these references would not have been combined as alleged by the Examiner. Indeed, the references are directed to completely different matters and problems.

Specifically, the Kawasaki et al. reference is directed to reducing the noises that are generated by a percussion hammer tool (col. 2, lines 36-45).

In stark contrast, the Hosoya et al. reference is directed to reducing the weight (col. 1, lines 10-29), increasing the efficiency (col. 1, lines 30-56), and evenly distributing the strain (col. 1, line 31 - col. 2, line14) of a speed reducer having a rubber damper that is disposed in a power transmission path.

One of ordinary skill in the art who was concerned with reducing the noises that are generated by a percussion hammer tool as the Kawasaki et al. reference is concerned with addressing would not have referred to the Hosoya et al. reference because the Hosoya et al. reference is concerned with the completely different and unrelated problems of reducing the weight, increasing the efficiency, and evenly distributing the strain of a speed reducer having a rubber damper that is disposed in a power transmission path. Thus, the references would not have been combined, absent hindsight.

Even assuming arguendo that one of ordinary skill in the art would have been motivated to combine these references, the combination would not teach or suggest each and every element of the claimed invention.

None of the applied references appears to teach or suggest the features of the present invention including an impact damping mechanism for damping the rotational impact force on a speed reduction mechanism in a direction of rotation of the fixed gear. As explained above, this feature is important for inhibiting an impact force from damaging a speed

reduction mechanism.

The Examiner admits that the Kawasaki et al. reference does not teach or suggest this feature of the present invention.

The Hosoya et al. reference does not remedy the deficiencies of the Kawasaki et al. reference.

Rather, the Hosoya et al. reference discloses a speed reducer with "a rubber damper disposed in a power transmission path." (Col. 1, line 11). In particular, the Hosoya et al. reference explains that "When the electric motor is driven . . . the driving force thereof is transmitted to the power output shaft 4 through . . . the rubber dampers 6." (Col. 5, lines 13-19).

In other words, the Hosoya et al. reference discloses an impact damping mechanism that is disposed in a power transmission path between a motor and an output shaft and, therefore, dampens the power output.

In stark contrast, the present invention provides an impact damping mechanism for damping the rotational impact force on a speed reduction mechanism in a direction of rotation of the fixed gear. In other words, the impact damping mechanism of the present invention does not dampen the power output. Rather, the impact damping mechanism protects the speed reduction mechanism by dampens an impact upon a speed reduction mechanism.

Therefore, the Examiner is respectfully requested to withdraw the rejection of claims 1-4, 6, 8-9, 11, 13, and 15-23.

Further, with respect to new independent claim 28, the impact damping mechanism is between the speed reduction device and the housing. For example, as is clearly illustrated by Figure 1 of the present specification, the speed reduction device includes a fixed gear 6a that

meshes with the planetary gears (speed reducers 8) that are mounted on the spindle 14 using needle bearings (needle pins 9). The planetary gears 8 also mesh with the pinion gear 4 (sun gear). In this manner, the rotational speed of the pinion 4 is reduced through the planetary gears 8 to the spindle 14. The fixed gear 6a is supported within the housing 1 with a fixed gear support jig 7a.

An impact damper is positioned between the speed reduction device and the housing. Therefore, any impact from the spindle through the speed reduction device is absorbed by the impact damper before being transmitted to the housing. In this manner, the impact transmitted by the speed reduction device to the housing is reduced and the potential for damage to the speed reduction device is also reduced.

In the exemplary embodiment that is illustrated in Figure 1, the impact damper 5 is positioned between the fixed gear 6a of the speed reduction device and the fixed gear support jig 7a that is fixed within the housing and which supports the fixed gear 6a.

In stark contrast to the present invention, as explained above, the Hosoya et al. reference discloses an impact damping mechanism that is disposed in a power transmission path between a motor and an output shaft in order to dampen the power output. For example, the Hosoya et al. reference illustrates in Figs. 1 and 2, a damper that includes rubber dampers 6 that are positioned between rotating wheels (first wheel 3 and second wheel 5).

As explained above, the speed reducer that is disclosed by the Hosoya et al. reference uses a worm gear 2b that meshes with a wheel gear 3c on the first wheel 3. Neither of these rubber dampers 6 are positioned between the speed reducer (worm gear 2b and wheel gear 3c) and the housing as recited by new independent claim 24.

Therefore, Applicants respectfully submit that new independent claim 28 is allowable

over the applied references.

Lastly, with respect to new independent claim 29, the power tool includes a projection that extends toward the motor from a side of the fixed gear that engages a hole portion in a support member. As explained above, that feature is important for supporting the fixed gear by the fixed gear support member without increasing the outer diameter of the fixed gear support member and the tool (see, for example, page 9, line 15 through page 10, line 1).

Clearly, none of the applied references teaches or suggests such a structure.

Therefore, Applicants respectfully submit that new independent claim 29 is also allowable over the applied references.

III. FORMAL MATTERS AND CONCLUSION

The Office Action objects to claim 9. This Amendment amends claim 9 in accordance with Examiner Lopez's very helpful suggestion. Therefore, Applicants respectfully request withdrawal of this objection.

In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 1-13, 15, and 17 - 33, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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